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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,175	10/22/2003	James P. Siepmann	LTI.PAU.03	8352

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EXAMINER	
SEDIGHIAN, REZA	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/692,175	SIEPMANN, JAMES P.	
	Examiner	Art Unit	
	M. R. Sedighian	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☒ Claim(s) *18-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *4/19/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Reference numeral "19", representing claim 18, should change to --- 18 ---.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7-8 and 15-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claims 7 and 15, specification does not clearly describes how the system is configured in a feed-back loop in which an actual arrival time of a subsequent pulse is compared to an expected arrival time of the pulse and the pulse travel time is either advanced, retarded or maintained at a nominal condition by being directed through the first, second or third time-quantifiable optical path, so as to maintain a pre-defined time spaced-apart periodicity relationship between each pulse.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-8 and 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 2 and 10, it is not clear how a third waveguide is coupled to the first waveguide through a second optical switch. Figures 8C and 9 shows optical switches that are

connected to the first, second, and third waveguides. Which switch is the second switch that connects the third waveguide to the first waveguide??

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spanke (US Patent No: 5,402,256) in view of Takiguchi et al. (US Patent Application Publication No: 2001/0010739 A1).

Regarding claims 1 and 9, Spanke teaches an optoelectronic timing system (30, fig. 3), an optical compensation system for advancing or retarding an optical signal within a pre-defined pathway (col. 3, lines 10-23), the system comprising: at least one optical transmitter configured to transmit optical signals (the optical signals transmitted through optical input line 34 in fig. 3), a first optical waveguide (40_0, fig. 3) configured to define a first time-quantifiable optical path for the optical signal (col. 3, lines 15-18), a second optical waveguide (40_1, fig. 3) configured to define a second time-quantifiable optical path for the optical signal different from the first waveguide (col. 3, lines 16-19) and coupled to the first waveguide through an optical switch (32, fig. 3); and wherein the length of the second time-quantifiable optical path has a defined numerical relationship to the length of the first time-quantifiable optical path such that the optical signal traversing the second path has a travel time lengthened by a specific quantity with respect to the same pulse traversing the first path (col. 1, lines 51-68, col. 4, lines 1-5). Spanke differs

from the claimed invention in that Spanke does not disclose a semiconductor laser to generate optical pulses, as an optical transmitter for the system. Takiguchi teaches an optical transmission system for transmitting short pulse optical signals through optical switches (11a, 11b, fig. 1) and optical waveguides of different lengths (12a, 12h, fig. 1), wherein the optical pulse transmitter is semiconductor pulse generator (page 2, paragraph 0047, 0050). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate an optical pulse transmitter such as the one of Takiguchi, as an optical transmitter in the optical time slot interchanger apparatus of Spanke to provide a more reliable and durable signal light transmission system.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kersey et al. (US Statutory Invention Registration No: H1626) in view of Takiguchi et al. (US Patent Application Publication No: 2001/0010739 A1).

Regarding claim 17, Kersey teaches an optoelectronic timing system (11A, fig. 5), comprising: an optical transmitter (13, fig. 5) configured to output optical pulse signals at a rate defining a particular frequency (15, 17, 41, fig. 5); a first optical waveguide (19, fig. 5) having a first fundamental length (col. 3, lines 8-10), the waveguide subdivided into physical length segments (21_1, 21_2, 21_3, fig. 5), each segment having a length equal to the other segments (col. 6, lines 23-49), each length segment and the fundamental length defining a time-quantifiable optical path for the optical pulse signal based upon the time required for the pulse signal to travel a particular length segment at the speed of light (col. 6, lines 50-56), a pulse detector (29, fig. 5) coupled to a terminal portion of each length segment (25_1, 25_2, 25_3, fig. 5) so as to issue a signal

upon detection of the optical pulse signal traversing the length segment (col. 6, lines 63-65) and wherein the periodicity of optical signal received (27, fig. 5) at the optical detector (29, fig. 5) is a multiple of the particular laser output frequency (col. 6, lines 63-67, col. 7, lines 1-10), the multiple based solely on the fundamental length and the number of length segments of the first waveguide (col. 3, lines 8-40, col. 6, lines 50-62). Kersey differs from the claimed invention in that Kersey does not disclose the laser is a semiconductor laser. Takiguchi discloses a semiconductor laser transmitter for generating short optical pulses (page 2, paragraph 0047, 0050). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a semiconductor pulse transmitter such as the one of Takiguchi for the laser transmitter of Kersey to provide a more reliable and durable signal light transmission system.

9. Claims 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M. R. Sedighian

M. R. SEDIGHIAN
PRIMARY EXAMINER